

CLAIMS

1. A shredded tobacco feeding apparatus for a cigarette manufacturing machine, comprising:

5 a feed passage extending to a tobacco band of the cigarette manufacturing machine;

supply means for causing shredded tobacco to fall to an inlet of said feed passage to supply the shredded tobacco to said feed passage;

10 pneumatic transport means for producing, in said feed passage, a flow of air flowing toward a suction surface of the tobacco band, to pneumatically convey the shredded tobacco fallen into the inlet of said feed passage by means of the air flow;

15 a separation chute having an upper end opening in the vicinity of the inlet of said feed passage, for receiving shredded tobacco that falls down across the air flow;

a separation passage having an upper end opening into said feed passage on a downstream side of said separation chute and having a lower end opening downward;

20 delivery means for collecting the shredded tobacco fallen into said separation chute and delivering the collected shredded tobacco to an intermediate portion of said separation passage, said delivery means sealing a junction between said separation chute and said separation passage in an airtight fashion;

25 introducing means for causing a flow of air flowing toward said feed passage to be produced in said separation passage at a location higher in level than the intermediate portion thereof, thereby allowing outside air to be introduced into said separation passage from the lower end thereof; and

detection means arranged in said separation passage at

a location lower in level than the intermediate portion thereof, for detecting stagnation of the shredded tobacco delivered to said separation passage.

2. The shredded tobacco feeding apparatus according  
5 to claim 1, wherein said detection means includes:

a reflecting mirror arranged on one of opposite side walls defining a width of said separation passage and having a reflecting surface facing the other of the side walls; and

10 an optical sensor arranged on the other side wall and having a light emitting/receiving surface for emitting detection light to the reflecting surface and receiving the detection light reflected from the reflecting surface.

3. The shredded tobacco feeding apparatus according  
15 to claim 1, wherein said detection means includes optical sensors for emitting detection light from one of opposite side walls defining a width of said separation passage, and for receiving the detection light on the other of the side walls, respectively.

20 4. The shredded tobacco feeding apparatus according to claim 2, wherein said detection means includes air blowing means for ejecting air along at least one of the reflecting surface and the light emitting/receiving surface.

5. The shredded tobacco feeding apparatus according  
25 to claim 1, further comprising alarm means for providing a predetermined alarm when stagnation of the shredded tobacco in said separation passage is detected by said detection means.

6. The shredded tobacco feeding apparatus according  
30 to claim 1, further comprising removing means for removing stagnation of the shredded tobacco in said separation passage when the stagnation of the shredded tobacco is detected by said detection means.

7. The shredded tobacco feeding apparatus according to claim 6, wherein said separation passage is defined between two walls facing each other, and

5       said removing means vibrates one of the two walls to remove the stagnation of the shredded tobacco.

8. The shredded tobacco feeding apparatus according to claim 1, further comprising:

10       removing means for removing stagnation of the shredded tobacco in said separation passage when the stagnation of the shredded tobacco is detected by said detection means; and

      alarm means for providing a predetermined alarm when the stagnation of the shredded tobacco in said separation passage is detected by said detection means.

15       9. The shredded tobacco feeding apparatus according to claim 4, wherein said separation passage is defined between two walls facing each other, and

20       said shredded tobacco feeding apparatus further comprises removing means for removing stagnation of the shredded tobacco in said separation passage by vibrating one of the two walls when the stagnation of the shredded tobacco is detected by said detection means.